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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,448

09/01/2006

Johann Seitz

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HARNESS, DICKEY & PIERCE, P.L.C.

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EXAMINER

KITOV, ZEEV V

ART UNIT

PAPER NUMBER

2836

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/591,448	SEITZ, JOHANN	
	Examiner	Art Unit	
	ZEEV KITOV	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/01/26</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. A reason for that is in a following limitation: "the second protective element is designed to provide semiconductor protection for an electronic switching device". The term "semiconductor protection" is not clear. Specification ([0012]) discloses the protection as being provided by the fuse having specific rating. It is also mentioning that: "Coordination type 2" can thereby also be achieved in conjunction with an electronic switching device", which for purpose of examination is interpreted as "providing protection to the semiconductor switching device.

Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. A reason for that is in a following limitation: "the protective device and the switching device having standard installation dimensions". Specification does not disclose a meaning of standard installation dimensions. For purpose of examination it is interpreted as requiring the devices to have dimensions allowing their easy installation in the enclosure carrying existing equipment.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6, 11 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Graff (US 5,822,164). Regarding Claim 1, Graff discloses following: a protective device for a load including a first protective element (4 in Fig. 1) providing motor protection and line protection and an integral second protective element, i.e. manual disconnect switch (DS in Fig. 1) inherently protecting a load and a motor at a time of maintenance when according to safety rules, the mains power should be disconnected; the disconnect switch includes a fuse (6 in Fig. 1, col. 2, line 55 – col. 3, line 20) providing short circuit protection.

Regarding Claim 6, Graff discloses the first protective element as an overload relay, i.e. circuit breaker (38 in Fig. 2, col. 3, lines 21 – 44).

Regarding Claim 16, Graff discloses the equivalent first protective element as an overload relay, i.e. circuit breaker (38 in Fig. 2, col. 3, lines 21 – 44).

Regarding Claim 11, Graff discloses an equivalent first means for providing motor protection and line protection (4 in Fig. 1); and an equivalent integral second means, i.e. manual disconnect switch (DS in Fig. 1) inherently protecting a load and a motor at a time of maintenance when according to safety rules, the mains power should be disconnected; the disconnect switch includes a fuse (6 in Fig. 1, col. 2, line 55 – col. 3, line 20) providing short circuit protection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 8, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graff in view of current design practice.

As Claim 7, it requires a trip response of the first protective element, i.e. circuit breaker, being coordinated with the rating of a protected switching device. Examiner takes an Official Notice, that such requirement is a normal part in the rules of protection system design, since otherwise if it is not coordinated, i.e. if the trip threshold is set

higher than a maximum current that the switch can withstand, the switching device will be damaged thus defeating a purpose of use of the protection system. It would have been obvious to one of ordinary skill in the art at the time the invention was made to set a threshold of the protection device such that it would effectively protect all the elements of the circuit.

As per Claim 17, the same considerations as in Claim 7 rejection are valid with respect to the trip response of the first equivalent means.

As per Claims 8 and 18, it requires the protective device and the protective device and the switching device having standard installation dimensions. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the protective device and the switching device having standard installation dimensions, i.e. fitting dimensions of existing standard enclosure of the motor control equipment since otherwise there would be a problem of installing additional new parts into the system.

Claims 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graff in view of Risberg (US 4,054,818). Regarding Claim 2, Graff discloses the second protective element, i.e. manual disconnect switch (DS in Fig. 1) inherently protecting a load and a motor at a time of maintenance when according to safety rules, the mains power should be disconnected; the disconnect switch includes a fuse (6 in Fig. 1, col. 2, line 55 – col. 3, line 20) providing short circuit protection. However, it does not disclose the semiconductor switching device. Risberg discloses electrical motor control with a

help of inverter, switching circuit formed of SCR's (17, 18 in Fig. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the electromechanical switch of Graff by the semiconductor switches of Risberg, because of their multiple advantages, i.e. they may perform a wide range of functions, such as controlling a motor current and therefore a speed, they are widely used for voltage conversion and at the same, they may perform a motor protection function since their SCR's may be turned off upon instruction when it is necessary. Additionally, as well known in the art, the semiconductor switches are not subject to wear and tear as electromechanical switches. In the Graff system modified according to teachings of Risberg, the fuse switch protects the semiconductor switch against over-currents, including short circuit fault.

Regarding Claim 12, Graff discloses Graff discloses the equivalent second protective element, i.e. manual disconnect switch (DS in Fig. 1) inherently protecting a load and a motor at a time of maintenance when according to safety rules, the mains power should be disconnected; the disconnect switch includes a fuse (6 in Fig. 1, col. 2, line 55 – col. 3, line 20) providing short circuit protection. However, it does not disclose the semiconductor switching device. Risberg discloses electrical motor control with a help of inverter, switching circuit formed of SCR's (17, 18 in Fig. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the electromechanical switch of Graff by the semiconductor switches of Risberg, because of their multiple advantages, i.e. they may perform a wide range of functions, such as controlling a motor current and therefore a speed, they are widely used for

voltage conversion and at the same, they may perform a motor protection function since their SCR's may be turned off upon instruction when it is necessary. Additionally, as well known in the art, the semiconductor switches are not subject to wear and tear as electromechanical switches. In the Graff system modified according to teachings of Risberg, the fuse switch protects the semiconductor switch against over-currents, including short circuit fault.

Claims 5 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graff in view of Scoggin (US 6,853,289). Regarding Claims 5 and 20, Scoggin discloses an auxiliary switch (Q1, Q2, D3, and D4 in Fig. 17) used to signal the status of the fuse (362 in Fig. 16, col. 13 – line 25 – col. 14, line 20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the auxiliary switch and indicator to indicate the status of the fuse, because it is necessary to attract attention of maintenance personnel to take care of a fault problem when it is necessary.

Regarding Claim 15, Scoggin discloses an equivalent means for signaling the status of the fuse, i.e. auxiliary switch (Q1, Q2, D3, and D4 in Fig. 17) used to signal the status of the fuse (362 in Fig. 16, col. 13 – line 25 – col. 14, line 20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the auxiliary switch and indicator to indicate the status of the fuse, because it is necessary to attract attention of maintenance personnel to take care of a fault problem when it is necessary.

Claims 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graff in view of Risberg and Scoggin (US 6,853,289). Regarding Claim 10, Scoggin discloses an auxiliary switch (Q1, Q2, D3, and D4 in Fig. 17) used to signal the status of the fuse (362 in Fig. 16, col. 13 – line 25 – col. 14, line 20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the auxiliary switch and indicator to indicate the status of the fuse, because it is necessary to attract attention of maintenance personnel to take care of a fault problem when it is necessary.

Claims 3, 4, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graff in view of Frank (US 2,324,852). Regarding Claims 3, 4, 13 and 14, Graff discloses the disconnect switch (DS in Fig. 1) containing the fuse in its enclosure. According to Graff (col. 3, lines 5 – 20) by disconnecting the switch (DS in Fig. 1) the fuses are transferrable from their operating position into an idle position. However, it does not disclose that the idle position is a maintenance position. Frank discloses a safety switch (Fig. 1) used with the fuse box (Fig. 10). According to Frank, in this structure the switch handle may be locked against movement out of the open circuit position, while at the same time permitting the covers 38 or 28 to be moved for exposing the interior of the switch for inspection, fuse replacement, or maintenance (page 2, right column, lines 57 - 68). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Graff system according to teachings of

Frank, i.e. providing a locking mechanism to the fuse box in order to secure safe operation during fuse replacement or maintenance.

Claims 9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graff in view of Risberg and Frank. Regarding Claims 9 and 19, Frank discloses a safety switch (Fig. 1) used with the fuse box (Fig. 10). According to Frank, in this structure the switch handle may be locked against movement out of the open circuit position, while at the same time permitting the covers 38 or 28 to be moved for exposing the interior of the switch for inspection, fuse replacement, or maintenance (page 2, right column, lines 57 - 68). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Graff system according to teachings of Frank, i.e. providing a locking mechanism to the fuse box in order to secure safe operation during fuse replacement or maintenance.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zeev Kitov whose current telephone number is (571) 272 - 2052. The examiner can normally be reached on 8:00 – 4:30. If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can

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be reached on (571) 272 – 2800, Ext. 36. The fax phone number for organization where this application or proceedings is assigned is (571) 273-8300 for all communications.

/Michael J Sherry/

Supervisory Patent Examiner, Art Unit 2836

/Z. K./

Examiner, Art Unit 2836

5/4/2008